

REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed July 29, 2004 (the "Office Action"). Claims 1, 2, 4, 8-10, 13 and 15-17 were pending in the Application prior to the outstanding Office Action. In the Office Action, claims 1, 2, 4, 8-10, 13 and 15-17 were rejected under 35 U.S.C. §103(a).

I. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §103(a)

On pages 3-5 of the Office Action, the Examiner rejected claims 1, 2, 4, 8-10, 13 and 15-17 under 35 U.S.C. §103(a) as being unpatentable over several combinations of the following references:

- U.S. Patent No. 6,138,721 issued to Bonora et al ("*Bonora*");
- U.S. Patent No. 6,281,516 issued to Bacchi et al. ("*Bacchi*");
- U.S. Patent No. 6,053,983 issued to Saeki et al. ("*Saeki*"); and
- Prior art shown in Fig. 3 of this application ("*Prior Art*").

Bonora discloses a load port 13 that secures to the front end of a tool through a BOLT interface plate 12. The load port 13 shown in Figs. 1-2 includes, among other things, a mounting plate 10, a FOUP advance plate assembly and a "process tool port 15 (shown covered by a port door 17)." *Bonora*, 4:23-24; Figs. 1-2. The port 15 is an opening in the top portion of the mounting plate 10. The FOUP advance plate assembly is secured to the mounting plate 10. To gain access to the interior of the tool, the mounting plate 10 (with the FOUP advance plate assembly attached) must be removed.

Bacchi discloses a wafer transport system 10 able to receive and open multiple FOUPs 18. The base of the system 10 includes "a frame 12 to which two front or port plates 14 are attached." *Bacchi*, 4:16-17. "Each front plate 14 supports one of two substantially identical load box interface systems 16." *Bacchi*, 4:17-18. Each port plate 14 has an opening 74 to mate with the port door 76. *Bacchi*, 5:12-13. In other words, the wafer transfer system 10 basically comprises two load ports mounted to a single frame 12.

Saeki discloses a load port 30. The load port 30 includes, among other things, a front panel 31 having an opening 32, a port door assembly 40 and a carrier table 33. *Saeki*, Fig. 3. The front panel 31 secures directly to the front end of a tool. The port door assembly 40, which is secured to the back of the front panel 31, includes a port door 41 and a drive mechanism 43 for

moving the port door 41 into and out of the opening 32. The carrier table 33 “is supported on a base 34 so as to be able to move toward and away from the opening 32 of the front panel 31.” *Saeki*, 11-12.

The *Prior Art* shown in Fig. 3 of this application illustrates a “load port assemblies 28 for receiving a workpiece carrier, opening the carrier, and presenting the workpiece to the robot 24.” Application, p. 4, line 20 – p. 5, line 1. An example of the load port assembly 28 provided in the application is “United States Patent No. 6,138,721 ... [which] discloses a system for adjusting a load port assembly.” Application p. 5, lines 7-12. In other words, the load port assembly 28 illustrated in Fig. 3 of this Application is the invention disclosed in *Bonora*.

Bonora in view of Bacchi, and further in view of the Prior Art

On pages 3-4 of the Office Action, the Examiner rejected claims 1-2, 8-10, 13 and 16-17 under 35 U.S.C.103(a) as being unpatentable over *Bonora* in view of *Bacchi*, and further in view of the Admitted Prior Art.

1. Independent claim 1 Is Patently Distinguishable Over *Bonora* in view of *Bacchi*, and further in view of the *Prior Art*

Claim 1, in part, recites a frame having:

“a frame including:

- a first elongated strut and a second elongated strut, said first and second elongated struts each having a bottom portion; and
- a structure secured to said bottom portion of both of said first and second elongated struts, said structure creating an exterior mounting surface, an interior mounting surface and a port door storage area located between said exterior mounting surface and said interior mounting surface;

.....

an isolation plate removably secured to said first and second elongated struts, said isolation plate having an opening;”

The load ports disclosed in *Bonora*, *Bacchi* and the *Prior Art* do not include a “port door storage area.” The Examiner acknowledges that *Bonora* “do not [sic] teach a ... separate storage compartment for the port door/carrier door assembly when opened.” Office Action, p. 3. The Examiner further acknowledges that *Bacchi* “do not [sic] teach a separate storage compartment for the port door/carrier door assembly when opened.” Office Action, p. 3. Therefore, the system recited in claim 1 is not obvious over *Bonora* in view of *Bacchi*. The *Prior Art* also does not

contain this missing element. Figs. 3 of this application illustrates that each load port assembly 28 has a port door that is retracted from the opening in the mounting plate and then partially lowered into the housing 22. The port door is not retracted into a “storage area” that isolates the port door from the rest of the housing 22. In contrast, the “storage area” created by the apparatus in claim 1 provides an “interior mounting surface” between the stored port door and the interior of the apparatus. Therefore, the apparatus recited in claim 1 is not obvious over *Bonora* and *Bacchi*, in view of the *Prior Art*.

In addition, the load ports disclosed in *Bonora*, *Bacchi* and the *Prior Art* do not include a separately removable “isolation plate.” The load port disclosed in *Bonora* includes a mounting plate 10 that secures to a BOLTS plate 12. The load port disclosed in *Bacchi* includes a mounting plate 14 that secures to a BOLTS plate. The load port disclosed in the *Prior Art* includes a mounting plate similar to *Bonora*. In *Bonora* and the *Prior Art*, to gain access to the tool, the mounting plate 10 must be removed from the BOLTS plate 12 – effectively removing the entire load port 13. The same is true for the load port in *Bacchi* (plate 14 must be removed – effectively removing the entire load port). In contrast, the apparatus recited in claim 1 allows a tool operator to remove a discreet portion (the “isolation plate”) to access the interior of the tool – without having to remove the entire load port assembly. Accordingly, the apparatus recited in claim 1 provides several advantages over the load ports disclosed in *Bonora* and *Bacchi*. Therefore, the apparatus recited in claim 1 is not obvious over either *Bonora* or *Bacchi*, in further view of the *Prior Art*.

2. Dependent claims 2 and 17 Are Patentably Distinguishable over *Bonora* in view of *Bacchi*, and further in view of the *Prior Art*

Dependent claims 2 and 17 depend directly or indirectly from independent claim 1. These dependent claims include all of the limitations of the independent claim from which they depend. Applicants respectfully assert that dependent claims 2 and 17 are allowable for at least the reasons set forth above concerning independent claim 1.

3. Independent claim 8 Patently Distinguishes over *Bonora* in view of *Bacchi*, and further in view of the *Prior Art*

Claim 8, among other things, recites a frame having:

“a frame including:

- a first elongated strut and a second elongated strut, said first and second elongated struts each having a front surface and a rear surface; and
- a structure secured to said first and second elongated struts, said structure providing an exterior mounting surface that is secured to said front surfaces of said first and second elongated struts, an interior mounting surface that is secured to said rear surfaces of said first and second elongated struts, and a port door storage area located between said exterior mounting surface and said interior mounting surface;

.....

an isolation plate removably secured to said front surfaces of said first and second elongated struts, said isolation plate having an opening;”

For at least the same reasons as discussed above with regard to claim 1, Applicants respectfully assert that claim 8 is not is not obvious over *Bonora* and *Bacchi*, in further view of the *Prior Art*.

4. Dependent claims 9-10 Are Patently Distinguishable over *Bonora* in view of *Bacchi*, and further in view of the *Prior Art*

Dependent claims 9-10 depend directly or indirectly from independent claim 8. These dependent claims include all of the limitations of the independent claim from which they depend. Applicants respectfully assert that dependent claims 9-10 are allowable for at least the reasons set forth above concerning independent claim 8.

5. Independent claim 13 Patently Distinguishes over *Bonora* in view of *Bacchi*, and further in view of the *Prior Art*

Claim 13, in part, recites an apparatus having:

“a frame, including:

- a first elongated strut, a second elongated strut and a third elongated strut, said first, second and third elongated struts each having a front surface and a rear surface; and
- a structure secured to said first, second and third elongated struts, said structure providing an exterior mounting surface that is secured to said front surfaces of said first, second and third elongated struts, an interior mounting surface that is secured to said rear surfaces of

said first, second and third elongated struts, and a port door storage area located between said exterior mounting surface and said interior mounting surface;

.....

an isolation plate removably secured to said front surfaces of said first, second and third elongated struts, said isolation plate having a first port opening located between said first and second elongated struts and second port opening located between said second and third elongated struts;”

For at least the same reasons as discussed above with regard to claim 1, Applicants respectfully assert that claim 13 is not obvious over *Bonora* and *Bacchi*, in further view of the *Prior Art*.

6. Dependent claim 16 Is Patently Distinguishable over *Bonora* in view of *Bacchi*, and further in view of the *Prior Art*

Dependent claim 16 depends directly or indirectly from independent claim 13. This dependent claim includes all of the limitations of the independent claim from which it depends. Applicants respectfully assert that dependent claim 16 is allowable for at least the reasons set forth above concerning independent claim 13.

Bonora and Bacchi and the Prior Art, in further view of Saeki

On page 4 of the Office Action, the Examiner rejected claim 4 and 15 under 35 U.S.C. Section 103(a) as being unpatentable over *Bonora* and *Bacchi* and the *Admitted Prior Art*, and further in view of *Saeki*.

1. Claim 4 Patently Distinguishes over *Bonora* and *Bacchi* and the *Prior Art*, in further view of *Saeki*

Dependent claim 4 depends directly from independent claim 1. Claim 1, in part, recites:

“a frame including:

a first elongated strut and a second elongated strut, said first and second elongated struts each having a bottom portion; and

a structure secured to said bottom portion of both of said first and second elongated struts, said structure creating an exterior mounting surface, an interior mounting surface and a port door storage area located between said exterior mounting surface and said interior mounting surface;

.....

an isolation plate removably secured to said first and second elongated struts, said isolation plate having an opening;”

As previously discussed above concerning claim 1, *Bonora*, *Bacchi* and the *Prior Art*, either alone or in combination, do not teach or suggest a “port door storage area.” Moreover, *Saeki* does not provide the “port door storage area” element missing from *Bonora*, *Bacchi* and the *Prior Art*. Figs. 2-3 and 6 of *Saeki* illustrate that the port door 41 is simply retracted into the wafer transfer chamber 38. The front panel 31 in *Saeki* does not isolate the pod door and/or port door from the wafer transfer chamber 38. Further, to access the interior of the tool in *Saeki*, the entire load port 30 must be removed (by removing the mounting plate 31). *Saeki* does not teach or suggest a discretely removable “isolation plate.” Therefore, Applicants respectfully assert that claim 4 is not obvious over *Bonora*, *Bacchi* and the *Prior Art*, in further view of *Saeki*.

2. Claim 15 Patentably Distinguishes over *Bonora* and the *Prior Art*, in view of *Saeki*

Dependent claim 15 depends directly from independent claim 13. Claim 13, in part, recites an apparatus having:

“a frame, including:

a first elongated strut, a second elongated strut and a third elongated strut, said first, second and third elongated struts each having a front surface and a rear surface; and

a structure secured to said first, second and third elongated struts, said structure providing an exterior mounting surface that is secured to said front surfaces of said first, second and third elongated struts, an interior mounting surface that is secured to said rear surfaces of said first, second and third elongated struts, and a port door storage area located between said exterior mounting surface and said interior mounting surface;

.....

an isolation plate removably secured to said front surfaces of said first, second and third elongated struts, said isolation plate having a first port opening located between said first and second elongated struts and second port opening located between said second and third elongated struts;”

For at least the reasons previously discussed above concerning claim 4, Applicants respectfully assert that claim 15 is not obvious over *Bonora*, *Bacchi* and the *Prior Art*, in further view of *Saeki*.

Additional Remarks

The references cited by the Examiner but not relied upon have been reviewed, but are not believed to render the claims unpatentable, either singly or in combination.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application are allowable, and a Notice of Allowance is requested.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-0639 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: January 27, 2005

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